

Stress and High-Achieving Students:
A Stress Management Program for Honors College Students

An Honors Thesis (HONR 499)

by

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STRESS AND HIGH-ACHIEVING STUDENTS

Abstract

Stress is an increasing problem, particularly among college students. While temporary stress can be positive, chronic and unmanaged stress is likely to lead to negative effects and have a long lasting impact on health. High-achieving students are a demographic of particular interest, as they may be under greater academic stress, be more prone to maladaptive perfectionistic behavior that can be triggered by stressors, and possess unique needs for management of stress. A literature review of stress relief and stress management interventions among college students and high-achievers was conducted to form the foundation of a unique, comprehensive stress management intervention for Ball State University honors students.

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STRESS AND HIGH-ACHIEVING STUDENTS

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Process Analysis Statement

Stress is an increasingly problematic issue in our culture, especially among college students. Research continues to show that stress, especially chronic stress, can lead to negative health outcomes in both the short- and long-term. My thesis explores the literature regarding the causes of stress in college students, the effects of such stress, and potential interventions to alleviate toxic stress among this population. As a health education and promotion major, the primary emphasis of my major is to learn to develop successful interventions for health issues, to ultimately promote a healthier society.

In my department, students are given a multitude of chances to learn about public health program planning. However, there is only one course (HSC 301) where we actually have the opportunity to plan a whole program. This thesis has allowed me to hone my planning skills—as they say “practice makes perfect.” I believe this project has further prepared me for my future career as a health educator. In addition, the research process has also taught me a lot, particularly how challenging it can be. One major challenge of this thesis project was finding reliable research on stress management. While many researchers have looked into the topic of stress, many have conflicting results. Much less research exists on my target demographic of high-achieving college students, which was frustrating throughout this process.

A major limitation of this thesis was that I used only secondary research. In public health, it is helpful to collect primary data through a needs assessment. Primary data is data collected first-hand, often from surveys or interviews that the researcher conducts, whereas secondary data is data that was collected by another researcher and exists in raw or analyzed form for others to access. Primary data collection helps you better understand what your specific target audience needs and wants in a program. If I were to do this thesis over again, I would start earlier and

request IRB approval to survey honors college students about their stress levels and management techniques. However, I have considered this in my thesis and included my ideas for assessing honors student stress should the Honors College wish to implement a program such as mine in the future.

An intervention is synonymous with the term “program plan.” Both of these terms refer to a thorough health promotion campaign. I chose to create a program plan for stress management. Stress management is defined as long-term prevention and control of stress in one’s life. It is generally achieved by active, ongoing techniques such as maintaining a schedule or calendar. Stress management encompasses stress relief. Stress relief refers to short-term techniques used to relieve the symptoms of stress, and includes relaxation techniques such as gentle physical activity, spending time with friends or family, and meditation.

Stress has had a major impact on my life, in both positive and negative ways. Stress management is a skill that must be developed over the course of one’s life if one desires to prevent the negative effects of chronic stress from affecting health. College is a time to learn valuable skills such as stress management. Research indicates that time management is not only a predictor of academic success, but that college students are lacking this vital skill (Krumrei-Mancuso, Newton, Kim, & Wilcox, 2013; Ranjita & McKean, 2000). There are both regular and high-achieving students who, while driven and intelligent, just cannot keep up with the demands placed on them. Frequently, the culture at universities is, “Don’t stop! Push beyond your limits!” While this is a well-meaning challenge, it can breed a toxic attitude of pushing oneself to a breaking point where, in exhaustion and discouragement, one collapses from burnout. The culture of our university can either promote or destroy mental health.

Because the culture surrounding students can have such a profound effect, the culture we promote at college matters. The culture promoted at this formational time in students' lives has lasting impact beyond their college years—perhaps affecting them forever. We can promote a culture of tired, anxious, and overwhelmed students, leading to adults who are also tired, anxious, and overwhelmed or we can choose to promote a culture of rested, peaceful, happy, and accomplished students, leading to a society of adults of the same nature.

Which will we choose? The hope of the program outlined in my thesis is to help students move toward a place of greater wellbeing.

Introduction

Risk Factors

Stress is broadly defined as any threat to an organism's state of optimal homeostasis (Dow, 2014). Some stress is a normal and even healthy part of life, but when stress is high and frequent, adverse effects can occur. For instance, research shows that stress can affect nearly every system of the body. According to the American Psychological Association, this includes the musculoskeletal, respiratory, cardiovascular, endocrine, gastrointestinal, nervous, and reproductive systems (American Psychological Association [APA], 2017). According to the Centers for Disease Control (CDC) 2016), common reactions to and symptoms of stress can include tension and irritability, anger, crying, trouble concentrating, nightmares, fear and anxiety, aches and pains, and even some symptoms of depression. While these symptoms alone are negative, studies have also shown that unmanaged stress can have even further, more lasting effects. These can include reduced immunity, reduced fertility, stomach ulcers, hypertension, heart attack, stroke, and migraines (APA, 2017).

Stress can also affect mental health. In fact, the more daily stressors one perceives, the more likely they are to experience anxiety and depression (Shönfeld et. al, 2016). In addition, students pursuing certain majors, such as those in medicine and health sciences and engineering, may experience the highest stress levels and be at an increased risk of depression and anxiety disorders compared to students pursuing less demanding college degrees (Elias, Ping, & Abdullah, 2011). Seleh, Camart, and Romo (2017) evaluated vulnerability to stress in 483 French college students and found that 72.9% were suffering from psychological distress. Around 60% of students also had low self-esteem, little optimism, and low self-efficacy; these, along with psychological distress, were found to be the greatest predictors of overall stress. This study indicates that addressing factors such as self-esteem, optimism, and self-efficacy could help prevent stress outcomes in college students.

Psychological distress is a predictor of mental disorders such as depression and anxiety, which, as mentioned above, contributes to overall stress (Selah, Camart, & Romo, 2017). Thus, it is worth looking at prevalence of these disorders. A World Health Organization study of mental disorders among college students around the world revealed that 20.3% of college students had mental disorders (Auerbach et al., 2016). It was found that 83.1% of those students had been diagnosed with their disorder before college, and having a diagnosis was a predictor of whether these students would drop out of college. Within these pre-college diagnoses, major depression and substance disorders were the most likely to result in attrition. These disorders frequently go untreated, with only 16.4% receiving any treatment.

College students are a population especially susceptible to experiencing stress symptoms. Poor eating habits and alcohol use, poor sleep hygiene, a lack of stress management skills, and poor time management coupled with the many demands of academic life put college students at

high risk for experiencing stress (Dusselier, Dunn, Yongyi, Shelley, & Whalen, 2005; Mikolajczyk, Ansari, & Maxwell, 2009; Nyer et al., 2014; Ranjita & McKean, 2000). In the 2015 National College Health Assessment conducted by the American College Health Association [ACHA], 26.9% of Ball State University students reported that stress—more than any other individual factor—affected their academic performance. In addition, 42.4% of Ball State University students rated their overall level of stress experienced in the past twelve months as “more than average stress” (ACHA, 2015).

Another interesting intersection between college students and stress is how stress affects diet. In a study of 2,103 university students in Germany, Poland, and Bulgaria conducted by Mikolajczyk, Ansari, and Maxwell, (2009) it was found that stressed women in particular were more likely to consume sweets and fast food. They were also less likely to consume fresh produce when they reported high perceived stress and depressive symptoms. A longitudinal study by Roberts (2008) followed 71 women and found increased cortisol levels during a time of chronic stress correlated with increased calorie consumption and altered food choices. These women also had increased intake of saturated fats; combined with increased caloric intake this led to increased bodyweight. Chronic stress also led to significantly increased anxiety and depression. Another study by Nastaskin and Fiocco (2015) looked at diet self-efficacy as it related to students with high and low perceived stress. Self-efficacy is having confidence in one's own ability to succeed in a situation; in terms of diet, this means one has confidence in their ability to eat a nutritious diet. In this study, it was found that those with high stress levels and low diet self-efficacy consumed the most sodium and fat, which can lead to increased risk of health problems such as raised blood pressure. In contrast, Fabián et al. (2013) did not see an association between stress and diet in a retrospective epidemiological study of Puerto Rican

college students. Despite 62% of students who participated in this study having inadequate diets, an association between increased stress level and dietary patterns was not found. However, most (60.7%) only reported moderate stress, so the sample may not have been representative of other university students in the U.S.

High-Achieving and Honors Students

While no data was collected specifically on high-achieving students at Ball State University in the aforementioned ACHA assessment, the literature supports that high-achieving students, such as those in the Ball State Honors College, experience greater stress than the average student. For instance, high-achieving students are more likely to have maladaptive perfectionistic tendencies (Rice et. al, 2006). In addition, Neumeister (2004) found that gifted college students were more likely to have authoritarian, perfectionistic parents that in turn led to these students developing a sense of self-worth tied to their achievements, very high expectations, and fear of disappointing others.

The Ball State University Honors College "About Us" web page reports that student members should expect "demanding courses, stimulating discussions, and challenging research." While challenging oneself academically can provide opportunity for incredible growth, it can also prove to be a source of stress when perfectionism enters the picture. Research by Rice et al. (2006) conducted a study of two successive cohorts of 403 and 277 honors students and found maladaptive perfectionism, which includes excessive worry about making mistakes, doubting oneself, and not performing up to intrinsic or extrinsic expectations, was triggered by stress. Because high-achieving students are more likely to be maladaptive perfectionists, interventions that address these tendencies are important.

Interventions Review

Overall, while the Honors College aims to be a supportive community for students, programs can be further developed and promoted to encourage even more successful, healthy students. This may be accomplished in a number of ways, by building off of many stress management techniques and interventions that have already been studied. One particularly relevant stress management intervention is the *MyStudentBody-Stress* intervention developed by Chiauzzi, Brevard, Thurn, Decembrele, & Lord (2008) and implemented at six U.S. colleges. In this intervention, students were randomly assigned to either the *MyStudentBody-Stress* website intervention, a control health information website, or no intervention. To participate, students had to be 18-24 years of age, attending college, and demonstrate higher than average stress levels through a score above a 14 on the Perceived Stress Scale. Students receiving the *MyStudentBody-Stress* intervention were asked to rate their physical stress indicators, life events, daily hassles, coping style, and mood. Based on their responses to the questionnaire, the *MyStudentBody-Stress* website tailored content to the individual participants. Content incorporated in the intervention included articles, strategies, and interactive tools such as *Student Voices* peer stories, *Ask the Expert* answers to frequently asked college stress management questions, and general health news relevant to the college demographic. The control website consisted of standard college health information with no graphics or interactive components, and was not tailored to individual student needs. In both of these groups, students were supposed to visit the site for at least four 20-minute sessions over the course of two weeks. The non-intervention control group received no web-based intervention. Students were blinded to which research group they were assigned.

The goal of the intervention study by Chiauzzi et al. (2008) was to assess whether an interactive, individually tailored stress management website was more effective at helping

students reduce stress than a non-interactive, non-tailored website. What researchers found was that of the three groups, those receiving the *MyStudentBody-Stress* intervention were more likely to report improvements in their stress management behaviors, showed the greatest decrease in anxiety subscale scores, and spent an average of 91 minutes longer on the *MyStudentBody* website than participants spent on the control website. The implications of this study are that personalized health information improves stress management and that interactive interventions such as the *MyStudentBody-Stress* website are more successful than non-interactive interventions or no intervention at all.

A short-term intervention conducted by McDonald, McDonald, and Roberts (2017) found that exposing students who were about to take an exam to a friendly dog resulted in lower blood pressures than those in a control group who studied, texted, or read in a quiet room for 15 minutes prior to their exams. In fact, those who interacted with the friendly female Saint Bernard/Standard Poodle mixed breed dog in the study had significantly decreased blood pressures after 15 minutes while those in the control group actually had increased blood pressures after 15 minutes. One possible implication of this is that student pets or interaction with dogs around high-stress times will calm students.

Another stress intervention proposed by Jose, Thomas, and Sajeena (2017) was the use of yoga therapy. The experimental study tested the concentration and stress levels of 60 students from two schools. The study utilized an experimental group and a control group selected by simple random sampling. The experimental group was administered yoga therapy for 30 days while the control group carried out their normal lifestyles. The researchers found that the group with the yoga intervention had significantly greater concentration post-test scores and that fewer

students had severe stress as assessed by the perceived stress scale, compared to the control group.

Summary

Based on a review of the literature, it seems that a multitude of unhealthy behaviors may be triggered by stress. Well-known issues affecting college students such as binge drinking and alcohol abuse, risky sexual behavior, smoking, drug use, weight gain, anxiety, and depression (ACHA, 2017) are negative coping mechanisms that may be traced back to stress as an underlying cause. Because of this, it is pivotal that interventions addressing stress, particularly for high achieving students, are developed. It follows that interventions addressing stress can have corollary effects and work to prevent more serious issues from developing.

The proposed intervention is a comprehensive program addressing the various aspects of stress. The intervention will address stress management through building social support, creative stress relief techniques, promoting healthy diet, physical activity, time management, proper sleep, and improving mental health. The proposed program will include further promotion of relevant programs already implemented on campus as well as new events to meet areas not already being addressed.

Current and Proposed Interventions

Current Status of Stress Interventions at Ball State University

The Ball State University Honors College already has mechanisms in place to support students' well-being. For instance, first year students are required to live in the Honors College exclusive residence hall, DeHority Hall. This, along with Honors College specific social events and resources such as picnics, the News & Notes newsletter, and DeHority residents Facebook page help provide a social support network for honors students. This is important because

research shows that having a social safety net and sense of belonging act as mediating factors against stress (Kennedy & Tuckman, 2013; Rice et. al, 2006). Resident Assistants (RAs) are live-in peers trained to assist students in adjusting to and dealing with college life, and part of that includes hosting programs that promote wellbeing. In addition, Ball State University provides certain services to all students, such as counseling sessions and the resource and relaxation room. These services can provide the help that students who are struggling with stress and related disorders need. However, as reported in a Ball State Daily News article, the Counseling Center is understaffed and has had to turn students away because the demand is greater than the Counseling Center staff can keep up with (Kirkman, 2016).

Proposed Intervention

Due to the fact that stress is a complex issue, and that many different interventions have been found to be successful, a stress management program would be most effective if it combined multiple management techniques. Such a comprehensive program could address several aspects of the stress response, including physical, mental, and social. For this program, the proposed intervention combines yoga therapy, time management lessons, group study, and fun stress relief sessions such as coloring and interaction with friendly animals.

In addition, it would be beneficial to regularly assess students' stress levels. Several assessments that measure stress levels already exist, thus making it simple for the university to distribute the assessment to students via email. The most widely used of these assessments is the Perceived Stress Scale (PSS) developed by Cohen (1994) (see Appendix). The PSS consists of 10 easy-to-understand items that measure current levels of stress experienced by the respondent. This would allow university health educators to track whether stress management intervention efforts are proving effective and if the following goals and objectives are being met.

Mission, Goals, and Objectives

Mission

- To promote a healthy, dynamic college experience for Ball State University Honors College students.

Goal 1

- Reduce the stress levels of Honors College students.

Objectives.

- Behavioral Objective: At least 30% of honors students will report attending one Honors College stress management event by the end of the academic year.
- Outcome Objective: Email PSS survey sent at the end of the academic year by the Dean of the Honors College to all Ball State Honors College students will show 10% decrease in overall stress level compared to baseline survey sent at the beginning of the year.
- Outcome Objective: By the next American College Health Association's National College Health Assessment of Ball State University, reduce the number of students who report experiencing more than average overall stress in the past twelve months from 42.4% to 38%.

Goal 2

- Produce an internal assessment that measures stress levels and stress management strategies, or lack thereof, among Honors College students.

Objectives.

- Process Objective: Within the first month of the semester, the Dean of the Honors College will email a PSS survey to all Honors College students to gather baseline stress level data.

- Process Objective: Within six months of the kickoff of the program, the Dean of the Honors College and a team of advisors and students will develop a survey based on existing reliable and valid assessments (including the Percieved Stress Scale) via Qualtrics to assess Ball State Honors College members stress levels and stress management strategies.
- Process Objective: The Honors College Dean will send the above developed survey to all Ball State Honors College students via university email once per semester after it has been developed to track student stress levels.

The Program

There are several events The Honors College can plan as part of a stress reduction intervention. Calendar 1 provides on overview of what a sample month of this intervention could entail. Included are Sunday Namaste: Yoga; Monday Meditation; Midterm Mutts; Healthy Microwave Meals; and Time Management 101. These programs all have a basis in the previously discussed literature, showing that they have successfully helped college students relieve or manage their stress.

Sunday Namaste: Yoga will be an hour long guided yoga session open to all honors students. Monday Meditation is a similar idea, but instead of yoga, a guided meditation session will take place. Different guided meditation recordings will be used each session to keep interest. Both of these would need to take place in a relatively quiet and spacious area, perhaps in a DeHority lounge or in the Ball Honors House garage classroom. These would be led by experienced student volunteers—preferably DeHority Resident Assistants or an Academic Peer Mentor. Midterm Mutts would be a collaboration with the Muncie animal shelter. For this hypothetical event, Muncie Animal Rescue Fund could bring a few dogs for students to play with

for an evening. Perhaps students could donate to play with the dogs, thus raising funds for the non-profit shelter, while they reduce stress at the same time. Healthy Microwave Meals would be a brief demonstration session under 30 minutes where the campus dietitian would demonstrate how to make a quick, healthy meal in a microwave. The Time Management 101 session would be a workshop where students can bring their calendars and learn how to schedule the upcoming week or month in a responsible and realistic manner. A great leader for this workshop would be an academic advisor, Hall Director, or Resident Assistant. Not included in the sample Calendar I are ongoing events and pieces of the program that are smaller but potentially just as useful.

These include weekly stress management tips and a link to a stress management website (similar to the previously discussed *MyStudentBody-Stress* site) included in the regular weekly Honors College emails sent every Monday, nightly homework hours in the hall study lounges, and healthy dining hall meal ideas posted on DeHority bulletin boards. Because the literature shows that mental health is a major issue in the high-achieving college demographic, marketing of the Ball State counseling center to students may also help educate students on resources available to them should they need professional counseling.

A major component of this program is assessment. The assessment will be administered to all Honors College students. Both a pre-program and post-program assessment are necessary to see if the program improved student stress levels. Therefore, a pre-program assessment based on the Perceived Stress Scale (see appendix A) will be sent to students via email within the first month of the semester. These baseline scores will then be compared to scores at the end of the program to assess whether change occurred; this is known as outcome evaluation. Attendance to program events will also be measured in the post-program assessment by asking “how many

stress relieving activities hosted by the Honors College have you attended this semester?" This will help gauge how involved students were.

Limitations

There may be a few program limitations. One possible limitation is sustainability. Because this program will take resources and committed individuals to keep it going, there is a risk that the program cannot continue if these needs cannot be met in the future. In addition, evaluation through the PSS may reveal that the program is not decreasing stress, in which case the program will need to be reevaluated to find new solutions that will be successful.

Conclusion

In conclusion, there is significant research which reveals the need for improved stress management techniques among high-achieving students. This research implies that students' mental and physical health can improve by reducing stress. This program will aim to reduce stress among Ball State Honors College students in interesting, interactive ways. Progress will be evaluated via pre- and post-program PSS assessment, conducted online. If this program is successful, the primary benefit will be reduced stress. In addition, while there are no planned methods to assess other benefits, research indicates that this program may lower incidence of mental disorders (Auerbach et al. 2016), and improve nutrition habits (Roberts, 2008).

October

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2 8 pm Time Management 101 session	3	4
5 7pm Sunday Namaste: yoga	6	7	8 5 pm Midterm Mutts: Muncie Animal Shelter visits	9	10	11
12	13 8 pm Monday Meditation	14	15	16	17	18
19 7pm Sunday Namaste: yoga	20	21	22	23 8:30 pm Healthy Microwave meals cooking demo- lobby	24	25
26	27 8 pm Monday Meditation	28	29	30		

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Appendix

PERCEIVED STRESS SCALE

The questions in this scale ask you about your feelings and thoughts during the last month.
In each case, you will be asked to indicate by circling *how often* you felt or thought a certain way.

Name _____ Date _____

Age _____ Gender (Circle): M F Other _____

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

- | | | | | | |
|--|---|---|---|---|---|
| 1. In the last month, how often have you been upset because of something that happened unexpectedly? | 0 | 1 | 2 | 3 | 4 |
| 2. In the last month, how often have you felt that you were unable to control the important things in your life? | 0 | 1 | 2 | 3 | 4 |
| 3. In the last month, how often have you felt nervous and "stressed"? | 0 | 1 | 2 | 3 | 4 |
| 4. In the last month, how often have you felt confident about your ability to handle your personal problems? | 0 | 1 | 2 | 3 | 4 |
| 5. In the last month, how often have you felt that things were going your way? | 0 | 1 | 2 | 3 | 4 |
| 6. In the last month, how often have you found that you could not cope with all the things that you had to do? | 0 | 1 | 2 | 3 | 4 |
| 7. In the last month, how often have you been able to control irritations in your life? | 0 | 1 | 2 | 3 | 4 |
| 8. In the last month, how often have you felt that you were on top of things? | 0 | 1 | 2 | 3 | 4 |
| 9. In the last month, how often have you been angered because of things that were outside of your control? | 0 | 1 | 2 | 3 | 4 |
| 10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? | 0 | 1 | 2 | 3 | 4 |

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